

Tips for Safe Use of a Portable Generator



spotlight

In the event of a power outage, many Michigan homeowners and businesses rely on portable power generators to keep lights and appliances running until service is restored. A portable generator is designed to run a limited number of electric appliances at a time and is typically powered by gasoline or diesel fuel. If not used properly, these generators can create a hazardous environment.

Safety

Generators can be dangerous if they aren't used properly. Here are some helpful tips.

ALWAYS:

- follow local, state, and national fire and electric codes. A permit may be required for installation.
- use a heavy-duty (at least 12 gauge) UL-listed extension cord (less than 100 feet long) from the generator to your appliances – being careful not to overload the cord.
- make sure that the total electric load on your generator does not exceed the manufacturer's rating.
- properly ground the generator according to the manufacturer's instructions to avoid electrical shocks.
- protect the generator from rain and other moisture sources to prevent electrocution.
- store the generator in a dry location such as a garage or shed when not in use.

NEVER:

- x plug a portable generator into an electrical outlet in the home or garage. It can 'back feed' power into the utility company's lines – which can kill or injure utility workers fixing downed power lines.
- x operate a generator indoors or in an unventilated area. The exhaust contains deadly carbon monoxide fumes.
- x store gasoline for a generator indoors. Gasoline should be stored in an approved, non-glass safety container. Extinguish all flames or cigarettes when handling gasoline or the generator. Always have a fully charged, approved fire extinguisher located near the generator. Make sure you have enough fuel to run a generator for an extended period of time – during a power outage, gas stations may be closed.
- x refuel a generator while it is running. Shut it off and let it cool for 10 minutes before refueling to minimize the danger of fire.
- x touch a generator– especially the muffler area. Keep children away at all times. Parts of the generator are very hot during operation.

Sizing

A generator usually costs between \$400 and \$2,000 – depending on size and features. To determine the size of the generator you will need, total the wattage of the lights and appliances you need to power.

For Example:

Appliance	Wattage Needed to Run Appliance*
Furnace (1/3 HP blower)	2,100**
Refrigerator	1,800**
Microwave Oven	700
Two 100-watt light fixtures	200
Total	4,800
*Appliance wattage varies – these figures represent averages.	
**Reflects the need for up to three times the normal running watts for starting these appliances or cycling their compressors.	

A typical portable generator is rated at 3,000 to 7,500 watts. Most household appliances are rated at 120 volts. Some larger electric appliances (e.g., electric range, electric clothes dryer, well pump, air conditioner) are rated at 240 volts. If you want to power this type of appliance as well as smaller ones, you will need a generator that is rated at 120-240 volts

Installation

Always read and follow all installation and operation instructions for your generator. There are two ways to safely install and operate a portable generator:

Direct Hook-up

Portable generators are designed to power a limited number of plug-in appliances like your refrigerator, freezer, lamps – or any other combination of appliances you determine to be essential. These and other home appliances not permanently wired to the electrical system can be powered directly from the generator through a heavy-duty (at least 12 gauge), polarized extension cord. The extension cord should be less than 100 feet long to prevent power loss and overheating.

Safety Transfer Switch

Some generators can be permanently connected to your electric system to energize your home's wiring in the event of a power outage. This type of installation requires a safety transfer switch. Before starting your generator, you must activate the switch. The switch disconnects your home's wiring system from the electric company's system and allows electricity to flow from the generator to your home's circuitry. The switch prevents the generator from back-feeding electricity into the power lines and possibly causing injury or death to unsuspecting utility workers trying to restore power. The switch also prevents damage to your generator, wiring, and appliances when electric service is restored. **Only a licensed electrician should install a transfer switch.**